

22. (Previously Presented) The process according to claim 19, wherein:

the second mass comprises fluorozirconate anions in an amount that corresponds to a concentration, in said composition, of fluorozirconate anions that is within a range from about 18 to about 30 mM/kg, inclusive of 18 and 30 mM/kg;

the third mass corresponds to a total concentration of phosphorus-containing inorganic oxyanions and phosphonate anions, calculated as its stoichiometric equivalent as H_3PO_4 , that is within a range from about 0.50 to about 1.00 g/l, inclusive of 0.50 and 1.00 g/l;

the fourth mass comprises chromic acid in an amount that:

corresponds to a total concentration, in said composition, of hexavalent chromium cations within a range from about 2.25 to about 3.5 g/l, inclusive of 2.25 and 3.5 g/l;

is the source of hexavalent chromium for the composition; and

together with a sixth mass of reducing agent that is also mixed into the composition, is also the source of the trivalent chromium ions for the composition; and

said sixth mass of reducing agent corresponds stoichiometrically, in its reaction with chromic acid, to a concentration, in said composition, of chromium(III) ions that is within a range from about 1.25 to about 2.20 g/l, inclusive of 1.25 and 2.20 g/l;

in said liquid composition, there is a ratio of hexavalent chromium to chromium(III) ions that is within a range from about 2.5:1.00 to about 1.30:1.00, inclusive of 2.5:1.00 and 1.30:1.00;

there is additionally mixed into said composition an eighth mass of hydrofluoric acid that corresponds to a concentration, in said composition, that is within a range from about 0.70 to about 1.3 ppt, inclusive of 0.70 and 1.3 ppt;

there is also mixed into said composition a seventh mass of fluorinated alkyl ester surfactant molecules that corresponds to a concentration, in said composition, that is within a range from about 0.070 to about 0.13 ppt, inclusive of 0.070 and 0.13 ppt.